DOCUMENT RESUME

ED 194 601 TM 800 732

AUTHOR	Scott, Dunlap, Jr.
TITLE	Access to Schools and Nonstudents.
INSTITUTION	Education Commission of the States, Denver, Colo. National Assessment of Educational Progress.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
REPORT NO	NAEP-12-IP-56
PUB DATE	Sep 80
GRANT	NIE-G-80-0003
NOTE	35p.
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Data Collection; *Educational Assessment; Elementary Secondary Education; *Measurement Techniques; *National Surveys; Sampling; Young Adults
IDENTIFIERS	*National Assessment of Educational Progress

ABSTRACT

Three questions are discussed: (1) what approach will be taken to gain and maintain access to school districts and schools to administer assessment instruments? (2) what procedures should be employed in the difficult and complex task of gaining access to nonstudents (age 17)? and (3) what problems are likely to be encountered in doing this? Access to in-school and nonschool samples is one of the most critical aspects of a National Assessment program. A successful approach to gaining and maintaining access to school districts and schools demands that a protocal be followed; involvement by school personnel and students be minimum; procedures for resolving refusals be developed; and monitoring of data collection procedures and staff be rigorous so that problems are readily identified and corrected. School records are the basis for constructing the sampling frame for the out-of-school 17-year-olds. School officials provide a listing of names of early graduates, and students who failed to return to school following summer vacation and are not known to have enrolled in another school. Problems likely to be encountered include: response/nonresponse; privacy and confidentiality; the intrusiveness of surveys; and the growing cost of research. (RL)

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ACCESS TO SCHOOLS AND NONSTUDENTS

No. 12-IP-56

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National Assessment of Educational Progress

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Suite 700, 1860 Lincoln Street
Denver, Colorado 80295

September 1980

TM 800732

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The National Assessment of Educational Progress is an education research project mandated by Congress to collect and report data, over time, on the performance of young Americans in various learning areas. National Assessment makes available information on assessment procedures and materials to state and local education agencies and others.

The work upon which this publication is based was performed pursuant to Grant No. NIE-G-80-0003 of the National Institute of Education. It does not, however, necessarily reflect the views of that agency.

TABLE OF CONTENTS

PREFACE 1

INTRODUCTION 3

ACCESS TO SCHOOL DISTRICTS AND SCHOOLS 4
The ECS Approach 5
Protocol for Gaining Access 5
Minimizing Involvement of Schools, School Staff and Students 11
Resolution of School Refusals 12

ACCESS TO AGE 17 NON-SCHOOL SAMPLE 13

QUALITY CONTROL AND MONITORING 17

PROBLEMS LIKELY TO BE ENCOUNTERED 19

DATA COLLECTION ALTERNATIVES HAVING IMPLICATIONS FOR ACCESS TO SCHOOLS AND STUDENTS 23
Mode of Exercise Administration 23
Scoring 24
Computer-Console-Telephone 24
Data Collection by Grades 24

SUMMARY 26

BIBLIOGRAPHY 27

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LIST OF TABLES

TABLE 1: Annual School Participation Rates 5

TABLE 2: Summary of Alternative Sampling Frames Investigated 14

TABLE 3: Response Rate Data for Out-of-School 17-Year-Old Assessments from 1971 through 1976 16

TABLE 4: National Longitudinal Study (NLS), Safe Schools Study, National Assessment of Educational Progress (NAEP), and Survey of Public Secondary School Principals (SPSSP) High School Response Rates 20

TABLE 5: Summary of School Restrictions by School Year 22

PREFACE

The following paper is one of seven required by the National Institute of Education (NIE) grant to the Education Commission of the States for the National Assessment of Educational Progress (NAEP). The papers are intended to raise significant questions about NAEP functions and procedures in order to apprise the Assessment Policy Committee of its technical and administrative options as NAEP moves into a second decade of activity. According to the NIE Program Announcement, each paper should include "discussions about the significance of a national assessment of educational progress for (a) informing public opinion, (b) influencing educational and other social policies, (c) identifying specific educational and research needs, and (d) contributing to the goal of improving education." Thus, the papers combine broad theoretical considerations with very concrete discussions of potential options and their trade offs. All the papers are suggestive, rather than definitive--starting points for discussion rather than end points.

Two fundamental questions undergird these papers. First, if one were to design a national assessment program from scratch to serve the needs of the eighties and nineties, what would it look like? What theory would it draw upon? What constituents would it serve? How would it operate? And second, given that an assessment has been operating for ten years, how do answers to these questions match the current NAEP? How could the current NAEP be changed to accommodate needs and technology unforeseen when it was begun in the 1960s? As these questions weave in and out of the discussions of various issues, it will become clear that the answers one gives will probably depend upon one's assumptions about such things as the way society, education and science work, as well as one's familiarity with the theory, politics, history and operation of the current National Assessment.

There are many ways to implement the 1978 legislation mandating a national assessment. Some are undoubtedly better than others in certain respects; all have both advantages and drawbacks, complicating even the simplest comparisons among alternatives. In such a situation, it is imperative that advocates for various

models of a national assessment adopt an open, interdisciplinary approach to rethinking the assessment, listening carefully to each other and respecting professional differences of opinion.

Individuals charged with making policy decisions about NAEP--members of the Assessment Policy Committee and members of the U.S. Congress--will find that, in many instances, attempts to strengthen the Assessment in one regard will weaken it in some other regard. Given a certain level of funding, advances in some areas come at the expense of others. The National Assessment can neither be all things to all people nor a single, unchanging enterprise. It will always represent a combination of various tensions. The question for its future is not how do we eliminate those tensions? Rather it is: How do we harness those tensions creatively to keep the Assessment abreast of the times and continually relevant to the needs of American education?

INTRODUCTION

The National Assessment of Educational Progress (NAEP) is designed to monitor education outcomes by measuring the knowledge, skills, understandings and attitudes of three national in-school age populations (9-, 13- and 17-year-olds) and two nonschool populations (17-year-olds and young adults, 26-35). Consequently, access to in-school and nonschool samples is one of the most critical aspects of a National Assessment program.

This paper responds to the following three questions raised in the NIE Program Announcement for the National Assessment of Educational Progress grant.

"What approach will be taken to gain and maintain access to school districts and schools to administer assessment instruments?"

"What procedures should be employed in the difficult and complex task of gaining access to nonstudents (age 17, nonschool sample)?"

"What problems are likely to be encountered in doing this?"

The National Assessment shares with other researchers concerns about maintaining high response rates, minimizing respondent burden, maintaining privacy and confidentiality, and dealing with general complaints about the intrusiveness of surveys and tests. Unlike many researchers, however, the National Assessment has the dual challenge of accessing both in-school and non-school populations and therefore faces some unique challenges. These are discussed in the following pages in terms of approaches the Education Commission of the States (ECS) has taken to them, problems encountered and some alternatives to data collection that need investigation.

ACCESS TO SCHOOL DISTRICTS AND SCHOOLS

Because of widespread concern that national testing programs could lead to national curricula and ultimately to federal control, it is important to reaffirm that access to school districts and schools depends to a large degree on:

- general acceptance by the educational community,
- management by a nonfederal or nonfoundation entity, and
- voluntary participation by school administrators and students.

These tenets are particularly important for national evaluative programs and/or those that assess education performance of students.

The Education Commission of the States, (ECS) which administers the National Assessment of Educational Progress (NAEP), has contributed considerably to the general acceptance of NAEP by the education community. This is in part reflected by the high response rates among schools selected in NAEP's annual samples (see Table 1).

Although the Education Amendments of 1978 mandate that "participation in the National Assessment by state and local education agencies is to be voluntary," it was agreed at NAEP's inception (Hazlett, 1973, pp. 78, 81) that participation in the assessments would be voluntary and anonymous.

While the National Assessment enjoys the benefits of general acceptance by the education community engendered by its association with the Education Commission of the States, staff efforts to gain and maintain access to schools is still required. Considerable staff energy and resources are expended to maintain the school and student participation rates essential to providing estimates of student and group performance and changes in performance over time. The following section describes the major steps and procedures implemented by ECS to access school districts and schools.

TABLE 1. Annual School Participation Rates

Year	Schools Selected	Schools Contacted	Participating Schools	Percent PS/SC*
1	unknown	2,573	2,354	91.5
2	3,271	2,905	2,667	91.8
3	2,952	2,595	2,454	94.6
4	3,312	2,949	2,748	93.2
5	4,140	3,754	3,576	95.3
6	3,368	3,041	2,805	92.2
7	1,655	1,502	1,400	93.2
8	1,620	1,487	1,351	90.9
9	1,649	1,506	1,360	90.3
10	1,765	1,617	1,465	90.6
11	1,740	1,625**	1,506**	92.7**

*PS/SC = the number of participating schools out of the number of schools contacted.
**Estimated from preliminary data.

The ECS Approach

A successful approach to gaining and maintaining access to school districts and schools demands that:

- a protocol be followed;
- involvement by school personnel and students be minimum;
- procedures for resolving refusals be developed; and
- monitoring of data collection procedures and staff be rigorous so that problems are readily identified and corrected.

Protocol for Gaining Access

The Federal Reports Act of 1942, as amended in 1968 and 1973, requires that specific clearance procedures established by the Office of Management and Budget (OMB) and the Federal Education Data Acquisition Council (FEDAC) must be followed by federal agencies or their contractors before any requests are made to

collect information from states or local education agencies. ECS staff prepare the initial statement of purpose, analysis plan and other required documentation for the clearance process. National Institute of Education (NIE), as the sponsoring federal agency of NAEP, submits the clearance package to FEDAC/OMB.

Protocol also dictates that certain school organizations and officials be notified of the proposed data collection prior to entering the schools (see Figure 1). To assure communication and cooperation between ECS and the schools, ECS and its data collection subcontractor (Research Triangle Institute) adhere to the following procedures:

1. Clearance through the Committee on Evaluation and Information Systems (CEIS)

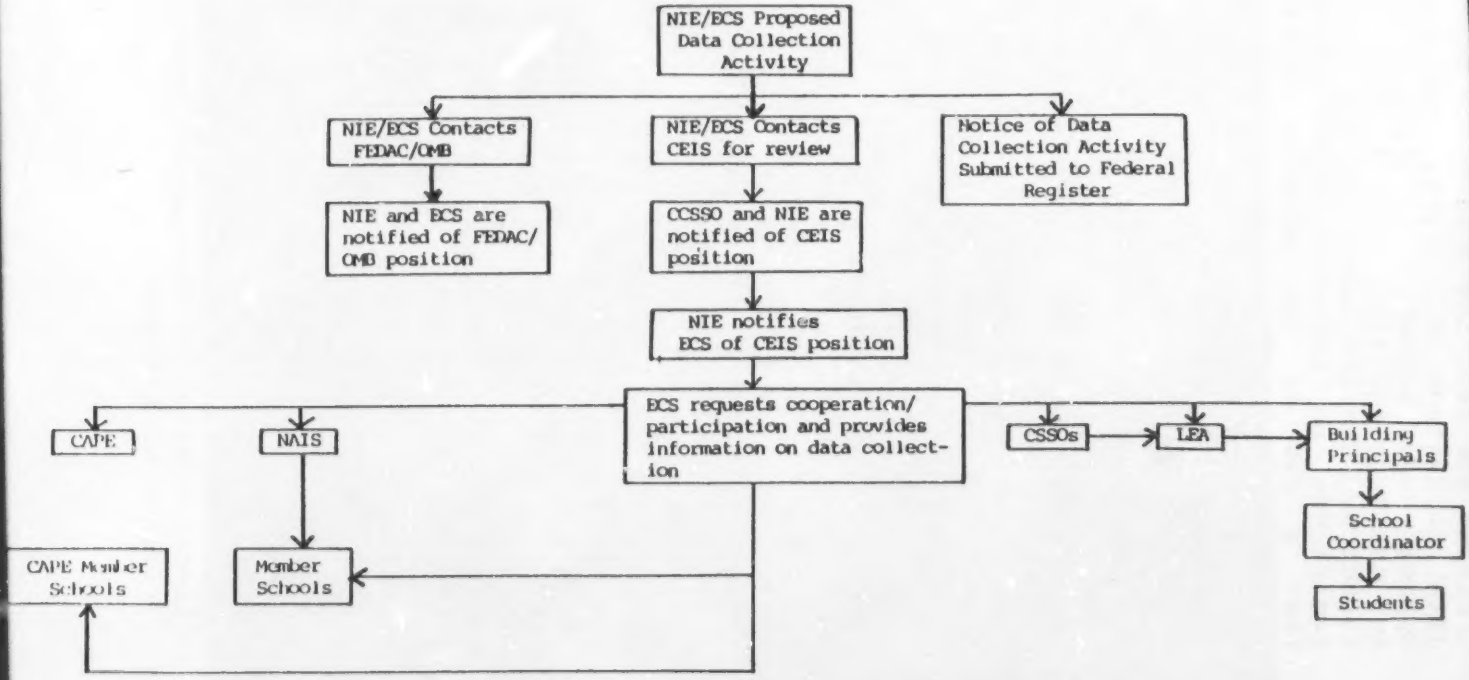
   CEIS is notified of proposed NAEP assessments. ECS staff, working with NIE staff, prepare the necessary documentation and seek CEIS review, analysis and approval of national assessments. CEIS reviews the design of proposed data collection instruments and activities for redundancies in the collection of information and to determine whether responses constitute a justified burden for state and local educational agencies. CEIS's position on the concept and instrumentation of a proposed data collection is then transmitted to the Chief State School Officers (CSSO), Council of Chief State School Officers (CCSSO), department of education CEIS coordinators, FEDAC and OMB.

   ECS staff periodically provides presentations on NAEP instrumentation and data collection plans to CEIS members at their request. This practice will continue in the future.

2. Liaison with the Council of Chief State School Officers, the Council on American Private Education (CAPE), the National Association of Independent Schools (NAIS) and Chief State School Officers (CSSO)

   Following the review by CEIS, the FEDAC and OMB clearances and prior to the collection of data in the schools, the executive officers of the CCSSO, CAPE, NAIS and each of the CSSOs are informed by the ECS executive director of the national assessments. This information

Figure 1. Protocol for Gaining Access to School Districts and Schools


NIE/ECS Proposed Data Collection Activity
NIE/ECS Contacts FEDAC/OMB
NIE/ECS Contacts CEIS for review
Notice of Data Collection Activity Submitted to Federal Register
NIE and ECS are notified of FEDAC/ OMB position
CCSSO and NIE are notified of CEIS position
NIE notifies ECS of CEIS position
ECS requests cooperation/ participation and provides information on data collect-ion
CAPE
NAIS
CSSOs
LEA
Building Principals
School Coordinator
Students
CAPE Member Schools
Member Schools

includes the learning area(s) to be assessed, data collection schedules, the numbers of schools and students in the national sample and the date ECS will contact local education agencies. The ECS executive director requests assistance in informing local administrators that a few of the schools within their jurisdictions have been selected as part of the NAEP sample. Copies of correspondence are forwarded to each state CEIS coordinator. These officials, many of whom are members of ECS and/or have long-standing relations with ECS, are routinely informed of both ECS and NAEP progress, problems, data collection procedures, available reports, materials and technical services. As a result of this well-coordinated effort, NAIS and 80 percent of the CSSOs formally contact local school officials to encourage participation in the national assessments. Moreover, most CSSOs appoint persons within their offices to coordinate the assessment within the state. ECS staff, in turn, work closely with the appointed state coordinators to avoid scheduling conflicts with state or local assessment/testing/accrediting programs.

3. Close interaction with the local system level

The NAEP director contacts local school officials to solicit cooperation and the participation of a sample of students in the assessments. The communication with superintendents, private archdiocesan and other school officials

- indicates prior contact with CEIS and the CSSO and/or CAPE and NAIS;
- identifies ECS as the NAEP administrative agency;
- provides NAEP project information and identification of the sample schools and age group(s) of interest;

- suggests an introductory meeting with the NAEP district supervisor, the administrative official or his/her representative and the principals of the identified sample schools to answer questions regarding NAEP and to thoroughly explain the assessment procedures and what is required of participating schools and students;

- suggests several options for contact with building principals; and

- states that a follow-up telephone call will be forthcoming from a RTI district supervisor.

The district supervisor ascertains official willingness to participate and, if affirmative, establishes a date, time and place for the introductory meeting and the procedure for contacting the principals. Results of the telephone calls are immediately reported to RTI central staff and the NAEP Director of the Liaison and Field Operations Department. If a potential participation problem is indicated, a decision is made whether ECS or RTI central staff should accompany the district supervisor to the meeting. Refusals are resolved in the manner described at the end of this section.

The procedure above is followed in most system-level contacts. Exceptions to this procedure occur with those systems with a prior history of refusal and in large systems, which because of size and location, are selected in each of the NAEP samples or are included in every other sample. In the case of systems with a history of prior refusal, all contact is made by either ECS/NAEP staff or parties intervening on behalf of ECS. In the case of large systems whose schools are frequently drawn into the NAEP samples, individual meetings are held by ECS or RTI central staff with system-level staff to identify and resolve potential problems and conflicts, to establish the date for an introductory meeting with the principals, to determine the best approach for gaining maximum cooperation of principals and students and to review previous conduct of the

assessment in the district. These meetings, approximately 15 to 20 each assessment year, were originally suggested by a number of superintendents and archdiocesan officials and will be continued in the future.

4. Close cooperation at school building level

As mentioned above, the NAEP director's letter to system-level officials suggests several options for coordinating contacts with principals and headmasters at the building level. The superintendent and/or his/her appointee may elect to:

- inform the principals of sample schools of the proposed introductory meeting;
- have ECS or the field staff make direct contact with the principals;
- both 1 and 2 above; or
- suggest other options.

Option 3 was selected by nearly all of the approximately 700 system-level officials contacted in each of the previous two assessments, except perhaps a "baker's dozen." Under any option selected, ECS provides the following:

- NAEP informational materials;
- a questionnaire about school characteristics (school grade range, enrollment, average daily attendance, and so on); and
- a letter requesting cooperation and confirming date, time and place of the introductory meeting as agreed with the superintendent.

These items are forwarded to the district office for distribution or sent directly to each of the principals of sample schools per instructions of the superintendent or the appointed district coordinator.

Minimizing Involvement of Schools, School Staff and Students

The best approach to collecting data in the schools is that which requires minimum involvement on the part of schools, school staff and students.

ECS employs the use of a rotational school sample (see Issues in the Analysis and Analysis of Change of National Assessment Data, 1980) to alleviate the research burden placed on the schools. The use of the rotational sample guarantees that an individual school will appear in the NAEP school samples only once in a four year period. This procedure was implemented subsequent to regional meetings with superintendents and principals who expressed the concern that the same schools were being selected year after year by federal, state and other groups who want to do research, evaluation and/or testing in the schools.

The assessment booklets or instruments are administered by district supervisors (DSs) and exercise administrators (EAs). The former are full-time professionals recruited, trained and supervised directly by the data collection contractor. They have the general responsibility of coordinating all assessment activities with sample schools and specific assignment areas or districts. The DSs recruit individuals (EAs) in each primary sampling unit to assist them in selecting student sample and in administering the exercise booklets to sample students. The EAs, most of whom are substitute teachers or graduate students, are retained on a temporary, hourly basis.

Schools are requested to:

- appoint a member of the staff, usually a guidance or testing counselor, to assist the district supervisor to coordinate the assessment in the school, to alert teachers and students, and to assist in getting students to assessment sessions;
- prepare lists of all age-eligible students in the school so that a random sample can be selected; and
- provide space for the assessment.

ECS provides clerical assistance and/or reimbursement to school staff for extra hours worked when requested by superintendents or principals because of the lack of school staff or clerical help to complete lists of age-eligibles.

The present statistical design of NAEP does not require participation of all students within a school, grade level or targeted age group. Nor is it necessary for students participating in the assessment to complete all 10 to 15 booklets of exercises (items) developed for each age group. The NAEP design requires that only a random sample of the targeted age group participate and that each student complete only one booklet of exercises. In this way, both student and school burden is reduced. Perhaps more importantly, students are required to miss only one hour of instructional time.

Resolution of School Refusals

Response rates are one important indicator of the quality of any survey operation. A low rate of response increases the danger of biased survey data because nonrespondents (both schools and students) may differ in characteristics important to the analysis of the data. In order to minimize the effects of this type of bias, all district and school refusals are followed up by ECS or RTI central staff in an attempt to reverse the refusal and gain access. When deemed appropriate, members of the ECS constituency and the NAEP Assessment Policy Committee are requested to provide assistance in reversing refusals or in establishing meetings between the refusing school officials and the ECS/RTI staff.

ACCESS TO AGE 17 NON-SCHOOL SAMPLE

From data presented in Current Population Characteristics, Series No. 333, it is estimated that at least 9 percent of the 17-year-old population are not enrolled in school. Although this group constitutes a small percentage of the total U.S. population, 9 percent is a significant proportion of the total 17-year-old population in the country. The National Assessment provides a useful service to various governmental agencies such as the Department of Labor and to various segments of the education community by assessing this nonstudent population.

Access to the age 17 nonstudent population in sufficient numbers to provide adequate data through the use of areal sampling techniques is extremely costly. ECS and its subcontractor conducted, in 1970, a series of studies to determine the most cost-effective sampling frame for this population (Moore and Jones, 1973a). A number of organizations were contacted to determine availability of sampling frames, approximate frame sizes in terms of universe coverage, availability of frame data to ECS/RTI, and possible operational problems. Table 2 allows a quick comparison of the several frames investigated across a number of pertinent factors. Information presented in Table 2 is reproduced from the report.

The areal frame and the secondary school records frame were the only ones that cover a substantial proportion of the out-of-school age 17 population. The other alternative frames studied were minor in terms of population coverage, and virtually all of the population contained in most of the frames could also be accounted for in the areal or school records frame. While there were field cost advantages associated with several of the frames, their use was not considered worthwhile due to their minor population coverage.

Given the high cost of screening the large number of households necessary to locate an adequate age 17 nonschool sample in an areal frame, it was determined that the secondary school records frame was the most cost-effective approach. It was also determined that a sample of age 17 early high school graduates would increase the coverage of the school records frame to

TABLE 2. Summary of Alternative Sampling Frames Investigated

Frame	Estimated Universe Coverage (Percentage)	Relative Sampling & Assessment Costs	Group Administrations Feasible	Estimated Difficulty in Constructing Sampling Frame	Frame Universe Covered by Area (household) Frame?	Estimated Cooperation of Agencies Involved
Areal	95%	High	No	None	Yes	N/A
Secondary school records	70-80	Low	No	Some	Most	Expect some problems
Colleges	2-3	Medium	No	Considerable	Partial	Expect some problems
Military	3-4	Very low	Yes	Some	Partial	Very poor
Neighborhood youth corps	5-6	Very low	Yes	None	Yes	Good
Job Corps	1-2	Very low	Yes	None	No	Very good
Employment security commission (active files)	1-5	Low	No	Considerable	Most	Expect some problems

approximately 80 percent of the age 17 nonschool population. Moore and Jones also estimated that the union of an areal and school records frame (resources permitting) would provide approximately 98 percent coverage of the age 17 nonschool group. For example, the additional cost of surveying a sample of age 17 nonstudents identified in the areal assessment of adults 26 to 35 years of age would be minimal (again resources permitting).

School records are the basis for constructing the sampling frame for the out-of-school 17-year-olds. Officials from a sample of schools participating in the in-school 17-year-old assessment are requested to provide, from existing school records, a listing of names of early graduates, and students who failed to return to school following summer vacation and are not known to have enrolled in another school. Individuals who re-entered school and who are enrolled at the time of the in-school assessment or students who transferred directly to other schools are not listed. For each individual listed, the date of birth, last known address and, when possible, the parent's name and address are recorded.

Once the lists are secured, a probability sample is selected by RTI sampling staff. Selected nonstudents are then assigned to field interviewers for follow-up interview and assessment. Personal contact is attempted with each respondent. If the personal contact is successful, a field interviewer explains the purpose of NAEP and seeks the respondents' cooperation. If repeated attempts (up to three call backs) to personally contact a respondent are not successful, attempts are made to contact other individuals (parents, neighbors, local sources) who may be able to provide information about the whereabouts of the respondent.

In order to minimize the costs of locating and assessing this group, out-of-school respondents are asked to complete a screening questionnaire, up to four full assessment booklets and a background questionnaire. This level of effort requires approximately three and one-half to four hours of a respondent's time. Past experience (see Table 3) has shown that a statistically valid sample of out-of-school 17-year-olds is difficult to achieve unless compensation is offered. Beginning in 1973, a financial incentive ($5.00 per completed booklet) has

been offered. This practice reduces the need to locate a respondent per booklet and, in turn, interviewer costs. ECS will continue financial incentives with the age 17 nonschool sample in the future.

TABLE 3. Response Rate Data for Out-of-School 17-Year-Old Assessments from 1971 through 1976

	1976*	1975	1974	1973	1972	1971
Total sample	1,330	770	1,943	2,424	2,237	961
Estimated number ineligibles	285	178	605	895	744	309
Estimated number eligibles	1,045	592	1,338	1,529	1,493	652
Eligibles responding	791	427	1,008	1,076	814	347
Response rate (%)	75.7	72.1	75.3	70.4	54.5	53.2

*1976 was the last year in which the assessment of out-of-school 17-year-olds was conducted with the exception of 1980, for which data is not yet available.

QUALITY CONTROL AND MONITORING

ECS staff supervise, monitor and evaluate all NAEP data collection activities conducted by the Research Triangle Institute (RTI). This includes on-site visits to the field and to the RTI central office and the monitoring of training sessions. ECS staff facilitate field work by taking or prescribing actions to resolve refusals and other field problems. In addition, periodic management meetings are conducted during which procedures and potential problems, particularly those dealing with budgets and schedules, are discussed and resolved. Frequent interaction also takes place via telephone.

The specifications issued by ECS for the conduct of in-school and out-of-school assessments set high standards for performance and call for the contractor to evaluate the staff and to verify data collection procedures as an integral part of normal activities. These activities are incorporated into RTI's training sessions and reviews of field staff performance. They include, but are not limited to, the following:

- on-going monitoring of field staff performance and progress through field visits, review of completed assessment materials returned from the field and at least twice-weekly telephone contacts;
- retraining and/or dismissing field staff whose performance or productivity is borderline;
- reward through salary increases or promotion for individual productivity; and
- debriefing of field staff to critique assessment procedures and to identify problems as well as methods to resolve them. Such feedback is placed into the planning structure for the next assessment.

Verification procedures include telephone, mail and/or personal interview with random samples of school officials, students and nonstudents to ensure that prescribed assessment procedures were followed and that sample students and nonschool respondents actually completed the assessment booklets.

PROBLEMS LIKELY TO BE ENCOUNTERED

As mentioned in the introduction to this paper, the problems likely to be encountered are those confronted by all researchers planning to collect data: response/nonresponse, privacy and confidentiality; the intrusiveness of surveys; and the growing cost of research. Interest in these issues increases as the societal need for accurate information becomes more urgent and the methodological sophistication of researchers improves. This is evidenced by the recent development of a new section of the American Statistical Association concerned with survey research methods, new journals emphasizing methodological research and other activities.

With respect to response/nonresponse, ECS makes every effort to achieve high response rates from schools, students and nonstudents. Table 1 shows annual school participation rates. Table 4 shows a comparison between school response rates achieved by ECS and those achieved by other studies. Student cooperation rates at ages 9 and 13 are also high, 90 and 85 percent, respectively. Special follow-up procedures employed in recent years secure over 80 percent cooperation at the in-school age 17 level. The nonresponse at each age level is due primarily to absenteeism and inaccuracies in school records. Nonresponse at age 17 is also due partially to the relatively high number of dropouts among this group as compared with the age 9 and 13 students. Actual student refusals are negligible. However, student refusals may increase as a result of the growing number of tests required by states and local education agencies.

Over the past four assessments of age 17 nonstudents, ECS has achieved response rates of 70 percent or greater (see Table 3). Preliminary data suggests that a response rate of approximately 80 percent will be achieved during the current assessment of non-students. Response rates, to a large degree, reflect the resources and efforts of the researcher. As noted throughout this paper, extensive effort and resources are directed toward maintaining access and high response rates. Training, monitoring and evaluating staff are vigorous. These will continue

TABLE 4. National Longitudinal Study (NLS), Safe Schools Study, National Assessment of Educational Progress (NAEP), and Survey of Public Secondary School Principals (SPSSP) High School Response Rates

Study	Number of Schools Selected	Number of Schools Participating	Response Rate
NLS			
Base-year	1200	921	77%[1]
Safe schools	841	642	75[2]
NAEP*			
Year 08	473	428	90[3]
Year 09	506	453	90
Year 10	511	435	92
Year 11	489	443	91[4]
SPSSP	2000	1448	72[5]

*NOTE: The NAEP sample of schools consists of approximately 1600 schools per year. The overall response rates for all schools, elementary and secondary, for the four years shown are 90 percent or greater.

[1]Williams, S. R. and R. E. Folsom, 1976, p. 4.

[2]Safe Schools Study, 1977, Table C-23, p. C-58.

[3]Years 08, 09 and 10 In-School Field Operations and Data Collection Activities, 1977, p . 38; 1978, p. 35; and 1979, p. 38.

[4]Year 11 estimates; data not yet available.

[5]Abramowitz, S. et al., 1978, p. 9.

because they are essential ingredients not only for high response rates, but for quality data as well. For a discussion of treatment of nonresponse see Issues in the Analysis and Analysis of Change of National Assessment Data, September 1980.

Recent years have seen the emergence of legislation designed to protect the privacy and rights of human subjects (e.g., the Privacy Act of 1974 and the National Research Act of 1974). The 1974 legislative acts were stimulated by concerns about the use of data for purposes other than those for which they were collected. Many researchers felt that refusals would increase and thus lower response rates. Kent Marquis (1977) asserted, in a paper presented at the second Biennial Conference on Health Survey Research Methods, that the predicted increase in refusals and attendant lowered response rates has not materialized. The ECS experience with response rates bears out Marquis' assertion.

Schools have, perhaps in response to the legislative acts, placed certain restrictions on the assessment. Table 5 summarizes the restrictions and suggests that the number of restrictions may be increasing. Note on Table 5 the percentages of schools who requested written permission from parents before the assessment and/or that informational materials be mailed to parents before or after the assessment have increased since 1974-75. ECS's experience with the requirement for written parental consent prior to assessment is that approximately 20 percent of the parents respond. If this trend continues, one could anticipate a decline in response rates and an increase in costs of data collection. Costs of preparation and mailing of informational materials are borne by ECS. School budgets do not include these costs.

Confidentiality and anonymity are always offered as a condition of participation in the National Assessment. School officials, students and nonstudents must believe that ECS not only keeps its word, but that it is legally and politically able to do so. To the extent that they regard ECS's promise as less than perfect, the validity of responses and the degree of participation will be affected.

TABLE 5. Summary of School Restrictions by School Year

Type of Restriction	Number of Schools 1978-79	1977-78	1976-77	1975-76	1974-75
Required that school information letters, press releases, etc. be sent to parents before or after assessment	34	13	1	5	10
Required that project informational letters be sent to parents before assessment	199	99	62	141	77
Requested written permission from parents before assessment	51	70	44	54	20
Would not allow one or more exercisess to be administered	--	--	--	24	--
Would not allow one or more background questions to be administered	23	27	16	49	38
Other	20	5	4	32	18
TOTALS	327	214	127	305	163
Percent of participating schools	22.1	15.7	9.4	21.8	5.8

DATA COLLECTION ALTERNATIVES HAVING IMPLICATIONS FOR ACCESS TO SCHOOLS AND STUDENTS

The purpose of a study is reflected in its sample design. The sample design in turn imposes certain data collection procedures. For NAEP, these data collection procedures have an impact on the cooperation of schools and student respondents. Following are some alternative data collection procedures which have been proposed. Investigations of the effects of these alternatives on the quality of National Assessment data must also include assessment of their impact on school and student burdens.

Mode of Exercise Administration

1. Paced Tape Versus Blocked Tape. Over the past 11 assessments, all instructions, exercises (except some reading items) and the foils have been administered to students with a paced audio tape to compensate for variations in reading skills among respondents. An alternative is a blocked time audio tape which would announce instructions and information at fixed intervals and time remaining. Blocked tapes would allow for the administration of different booklets in the same assessment sessions and increase the number of students assessed at one time, thus possibly reducing the number of administrations and schools required in the sample. In May 1980, an experiment was conducted to access the effects of using blocked versus paced tape at age 13. Students from low income areas showed significantly poorer performance with the blocked than with the paced tape, precluding their use for change measures.

2. Longer Administration Sessions. The present NAEP booklets are designed to be administered within 45 to 55 minutes, the typical class period for most schools. Increasing the length of the session to two class periods could allow more items to be administered to each student. How longer testing sessions would be viewed by the students, however, remains to be seen.

Scoring

National Assessment's procedure requires that respondents record their answers directly in the assessment booklet. This procedure is unique in the testing/assessment industry. Recording answers directly in the assessment booklet is costly because it requires the production of scannable assessment booklets. The expense of producing scannable booklets versus answer sheets may limit the use of NAEP items for districts and schools who wish to make comparisons with NAEP data. While answer sheets may not be feasible for some learning areas currently assessed by NAEP, e.g., writing or performance items, the feasibility of using answer sheets for recording responses in other learning areas should be investigated.

Computer-Console-Telephone

In the future, NAEP could employ a computer-console-telephone for collecting data from respondents and transmitting it directly to NAEP computers for tabulation. At present, the booklets are packed into boxes, shipped to Westinghouse DataScore Systems (WDSS) in Iowa City, Iowa, optically scanned and tabulated. The data are then merged with weight information from Research Triangle Institute (RTI) and mailed to NAEP. The effects on schools and school cooperation that would result from this kind of innovation would have to be investigated.

Data Collection by Grades

Since its inception, the National Assessment has collected data for specific age populations: 9-, 13- and 17-year-olds. These ages generally correspond to the end of primary, intermediate and secondary schooling. Although the primary focus of reporting results is the age populations, results are also made available for the modal grades corresponding to the age groups: age 9--grade four; age 13--grade eight; and age 17--grade eleven.

Data could be collected for specific grade levels rather than for age levels. Although this alternative, along with the others mentioned previously, requires intensive investigation before decisions can be made, some obvious benefits come to mind.

First, data collection by grade would permit the administration of the assessment booklets to intact classrooms. In turn, the use of intact classrooms reduces the burden on the schools in several important ways:

- the school would not need to provide separate space for the assessment administration;
- school personnel would not be required to search student records for birthdate information in order to make lists of age-eligible students; and
- nonresponse would be limited to absenteeism.

On the other hand, the use of intact classrooms would have an important impact on the sampling plan and analysis in addition to the effects that changing the population being assessed would have on the comparability of data from previous assessments.

We estimate that 29 states presently conduct assessments in one or more of the NAEP modal grades (4, 8, 11). Data collection by grade would provide more comparable national level data for states and local districts which report on a grade basis.

SUMMARY

While no one approach or set of procedures is totally satisfactory, those employed by the Education Commission of the States result from eleven years of continuous administration of the National Assessment of Educational Progress. This experience has allowed for the identification of problems, some testing of alternative solutions and the direct implementation of changes. As the National Assessment enters its second decade, ECS will continue to investigate the usefulness of suggested alternatives to the current data collection procedures and to make procedural changes when thorough investigations support their desirability for meeting National Assessment's goals.

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